

These simple solutions have saved Eastside Plating hundreds of thousands of dollars. The company has also reduced its 'cradle to grave' liability for hazardous wastes.

*Comments: Using source segregation and technology change, Eastside reduced the quantity of toxic input chemicals and minimized the risk of spills and/or overflows.*

### **Suppliers are cost-effective problem solvers**

Loos consulted with suppliers when he modified Eastside Plating's mixing sump (sometimes called a reaction tank) and a flocculent mix tank (sometimes called a neutralization tank). Treated chromic and cyanide water rinses flow into the sump, where the pH is increased by mixing it with strong caustics before it is pumped to the flocculent mix tank.

"We prefer to have any pH or flow fluctuations in the sump, not the neutralization tank," says Loos. Inadequate mixing and fluctuations in pressure and flow had caused engineering nightmares in the past, he adds.

But Loos no longer has nightmares about 'indigestion' in the mixing sump interfering with the neutralization process. Redesign resulted in three pumps handling ongoing operations—as well as emergencies. His suppliers/consultants helped resolve the problem of inadequate mixing by baffling the neutralization tank. To find the best coagulant, he worked with five companies, doing extensive jar testing and comparison studies, before selecting a dry anionic polymer.

"Engineering assistance is readily available," Loos says. "Companies want to make a sale and we gave them the opportunity to demonstrate their products."

*Comments: This is an excellent example of utilizing information sources such as vendors to generate waste reduction alternatives. Moreover, Loos conducted extensive pilot studies before choosing the best coagulant.*

### **Regulators can help, too**

"The non-compliance gap can close like a bear trap," warns Loos. To ease the pain, he recommends working with regulators instead of trying to avoid them. "The City of Portland and the Department of Environmental Quality were more interested in helping us solve our problems than in blaming us."

He credits the city's industrial sewage specialists and DEQ waste minimization classes for helping him find an effective yet affordable clarifying and drying system.

This upgrade uses a new clarifier, a new dryer, and a used sludge press to separate liquid and solid wastes. The system met Loos' specified requirements: it is easy to maintain; it shortens the final de-watering process; and it decreases the flow rate to an average of 125